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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/766,481	01/29/2004	Okito Nishio	58546.00013	3732
32294	7590	11/02/2006	EXAMINER	
SQUIRE, SANDERS & DEMPSEY L.L.P. 14TH FLOOR 8000 TOWERS CRESCENT TYSONS CORNER, VA 22182			HEITBRINK, JILL LYNNE	
			ART UNIT	PAPER NUMBER
			1732	

DATE MAILED: 11/02/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

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<b>Office Action Summary</b>	<b>Application No.</b> 10/766,481	<b>Applicant(s)</b> NISHIO, OKITO	
	<b>Examiner</b> Jill L. Heitbrink	<b>Art Unit</b> 1732	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 15 August 2006.  
 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.  
 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.  
     4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
 6) ☒ Claim(s) 1-12 is/are rejected.  
 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.  
 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.  
 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
     a) ☒ All    b) ☐ Some \* c) ☐ None of:  
         1. ☒ Certified copies of the priority documents have been received.  
         2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
         3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

1. Claims 1-2 are rejected under 35 U.S.C. 102(e) as being anticipated by Shibuya Pat. No. 6,376,940.
2. Shibuya discloses a rotational speed control (col. 6, lines 50-57) by sending an electric current to a stator 41 attached to the injection frame 2 (col. 3, lines 13-15). The rotor (40) is disposed radially inward of the stator (41), see figure 2. The rotor includes a hollow cylindrical member (40) and a magnet (40m) attached to the hollow cylindrical member. The rotor transmits rotation to the screw (col. 3, lines 6,7 and 30) via a slide member (3). The screw and slide member retreat during metering, Ds.

***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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3. Claims 1-6, 8-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over either European Patent Application 1004421 to Emoto or Emoto Pat. No. 5,679,384 taken together with Shibuya Pat. No. 6,376,940.

4. Emoto '421 discloses a similar method and apparatus in Figures 6, 8 and 9. Emoto '384 discloses a similar method and apparatus in Figure 4. The hollow cylindrical member (156, 356 first rotor shaft in Emoto'421 or first rotor shaft 56 in Emoto'384) is attached to the rotor as shown in the drawings. It would have been obvious to a person of ordinary skill in the art to provide a magnet in the rotor in view of Shibuya since rotors with magnets are known when producing rotation. Emoto discloses an encoder (384 in Emoto'421 and 85 in Emoto'384) for detecting the rotational speed.

5. Claims 6-7 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over either European Patent Application 1004421 to Emoto or Emoto Pat. No. 5,679,384 taken together with Shibuya Pat. No. 6,376,940 as applied to claims 1-6 above, and further in view of Nagate et al. Pat. No. 5,864,192.

6. Nagate (col. 18, lines 39-67) teaches the use of magnetic lines of force for determining the rotational speed of a motor. It would have been obvious to use the magnet detector of Nagate in either Emoto patent since this would provide similar speeds to the encoder.

7. Claims 1-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over either European Patent Application 1004421 to Emoto or Emoto Pat. No. 5,679,384 taken together with Nagate et al. Pat. No. 5,864,192.

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8. Emoto '421 discloses a similar method and apparatus in Figures 6, 8 and 9. Emoto '384 discloses a similar method and apparatus in Figure 4. The hollow cylindrical member (156, 356 first rotor shaft in Emoto'421 or first rotor shaft 56 in Emoto'384) is attached to the rotor as shown in the drawings. Nagate (col. 18, lines 39-67) teaches the use of magnetic lines of force for determining the rotational speed of a motor. It would have been obvious to use the magnet detector of Nagate in either Emoto patent since this would provide similar speeds to the encoder.

### ***Response to Arguments***

9. Applicant's arguments filed Aug. 15, 2006 have been fully considered but they are not persuasive.

10. Applicant argues that Shibuya's rotor 40 is unitary with the shaft 3 and is not disclosed as being hollow. The assembly of the rotor 40 with the shaft 3 is because the rotor is hollow. Applicant has not provided any method step which would require a hollow rotor or any method step not taught by Shibuya's rotor.

11. Applicant argues that the shaft 3 is not a rotary slide member. However, this member does rotate and slide and transmits the motion to the screw from the rotor.

12. Applicant disagrees with the teaching of rotors with magnets as taught by Shibuya et al. However, it is unclear how the maintenance of the magnet rotor of Shibuya would be different than the maintenance of the magnet rotor when in Emoto. How does this affect the method being claimed? Applicant argues that the magnets

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would require a larger stator design. However, the size of the magnet has not been claimed or its operation in the method.

13. Applicant argues that the encoder of Emoto is not disposed in opposition to the element being detected without contact. Nagate shows the use of noncontact rotary encoders. Applicant argues that magnetic sensor of Nagate would not be operable with a hollow member. However, the positioning of the sensor and magnet in relative positions to produce the relative rotational signal would have been obvious to a person of ordinary skill in the art of motors and rotary sensors used therefore. The method of controlling the rotation is known in injection molding based on the detected signal of the rotation wherein the location of the sensor is known in the art and does not alter the controlling operation.

14. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of


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the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jill L. Heitbrink whose telephone number is (571) 272-1199. The examiner can normally be reached on Monday-Friday 9 am -2 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christina Johnson can be reached on (571) 272-1176. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Jill L. Heitbrink  
Primary Examiner  
Art Unit 1732

jlh